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EXAMINER

DANG, KHANH NMN

ART UNIT	PAPER NUMBER
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2111

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DATE MAILED: 02/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/938,503

Applicant(s)

HWANG ET AL.

Examiner

Khanh Dang

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "external interface unit" recited in claim 2, for example, must be shown or the feature canceled from the claim. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

Claims 1-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-9 are directed to an apparatus. However, the essential structural cooperative relationship(s) between elements recited in the claims such as "a local controller" and "local processor" (claim 1) have been omitted, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. Further,

claim 1 is ambiguously constructed in view of the originally filed specification and Fig. 3. It is unclear what may be the so-called "local controller." It appears that both the "local controller" and "local processor" are both directed to element (25) shown in Fig. 3. Also, in claim 2, it is unclear what may be the "external device" recited in claim 2. It appears that the "external device" (claim 2) is the same "device" specified in claim 1.

Claims 10-15 are directed to an apparatus. However, the essential structural cooperative relationship(s) between elements recited in the claims have been omitted, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01.

Claims 16-34 are directed to an apparatus. However, the essential structural cooperative relationship(s) between elements recited in the claims such as "a local controller" and "local processor" (claim 16) have been omitted, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. Further, claim 16 is ambiguously constructed in view of the originally filed specification and Fig. 3. It is unclear what may be the so-called "local controller." It appears that both the "local controller" and "local processor" are both directed to element (25) shown in Fig. 3.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 6, 7, and are rejected under 35 U.S.C. 102(e) as being anticipated by Okumura et al.

At the outset, it is noted that similar claims will be grouped together to avoid repetition in explanation.

As broadly drafted and as best the Examiner can ascertain from the claims, these claims do not define any structure that differs from Okumura et al.

With regard to claim 1, Okumura et al. discloses a multimedia modular card (30, for example) inserted into a device (a camera, personal computer PC, for example) for operating the multimedia modular card, comprising: a bus interface (interface via host controller 45, for example) removably connected to the device for operating the multimedia modular card (30), for transmitting/receiving data to/from the device; a local controller (flash controller 40/CPU 41, for example) for controlling an operation of the multimedia modular card (30), according to an input signal from the bus interface; and a local processor (CPU 41/flash controller 40, for example) programmed to perform functions corresponding to previously-set multimedia support types, and operated by the local controller (40/41, for example).

With regard to claim 2, the multimedia modular card (30) of Okumura et al. further comprises an external interface unit (it is clearly inherent that the memory card

(30) must include interface connectors/pins for connecting the local processor to an external device (a camera, PC, for example).

With regard to claim 3, in Okumura et al., the local processor encodes or decodes an audio signal (all PCs must support audio/video signal and all flash memory cards support audio/video format) to or from decoder (50).

With regard to claim 4, the local processor encodes or decodes a video signal (all PCs must support audio/video signal and all flash memory cards support audio/video format) to or from decoder (50).

With regard to claim 6, the device for operating the multimedia modular card comprises a display unit (it is inherent that all digital cameras include a "display unit" for displaying, for example, the images stored in the memory card), and the local processor controls the display unit.

With regard to claim 7, it is clear that the local processor performs a data read/write operation according to a read/write signal from the device (a camera or a PC) for operating the multimedia modular card (30).

With regard to claim 9, see above.

Claims 1-4, 6, 7, 9-19, 21, 22, 24-26, 30, and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Swanstrom et al.

At the outset, it is noted that similar claims will be grouped together to avoid repetition in explanation.

As broadly drafted and as best the Examiner can ascertain from the claims, these claims do not define any structure that differs from Swanstrom et al.

Swanstrom et al. discloses a multimedia modular card (142, 142 a-d, for example) inserted into a device (a computer, for example) for operating the multimedia modular card, comprising: a bus interface (172/174, for example) removably connected to the device for operating the multimedia modular card, for transmitting/receiving data to/from the device; a local controller (encoder/decoder always needed for handling audio/video signals and included in DSP 210) for controlling an operation of the multimedia modular card, according to an input signal from the bus interface; and a local processor (DSP 210) programmed to perform functions corresponding to previously-set multimedia support types, and operated by the local controller.

With regard to claim 2, in Swanstrom et al., the connectors/pins of the card is readable as an external interface unit for connecting the local processor to an external device.

With regard to claims 3 and 4, it is clear that the DSP 210, as any conventional DSP, must include encoder/decoder for processing audio/video signals.

With regard to claim 6, it is clearly inherent that the computer system of Swanstrom must include a display unit controlled by the local processor for displaying video signals.

With regard to claim 7, it is clear that the DSP 210 performs a data read/write operation according to a read/write signal from the computer system of Swanstrom et al. for operating the multimedia modular card.

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With regard to claim 9, it is clear that the term "multimedia device" (142D, for example) used in Swanstrom et al. includes a camera comprising a multimedia card (142, for example).

With regard to claim 10, Swanstrom et al. discloses a device for operating at least one multimedia modular card (142/142a-d, b/400, for example), comprising: an external bus (at multimedia bus/pci bus slots) removably connected to at least one multimedia modular card, for receiving/transmitting data from/to at least one multimedia modular card; a main controller (CPU 102/ bridge106) for generating a signal for controlling said at least one multimedia modular card through the external bus; and a bus arbitrator (107,614) for arbitrating an external bus using right of a plurality of multimedia modular cards (142, 142a-d/144, 146), including at least one multimedia modular card, inserted into the device for operating at least one multimedia modular card.

With regard to claim 11, it is clear that the computer system of Swanstrom et al. must include an input unit for generating a key input signal of a user, and outputting it to the main controller.

With regard to claim 12, when at least one multimedia modular card (142, 142a-d) is connected to the external bus, the main controller (102/106) reads identification information and individual operation conditions (each cards 142, 142a-d has an address space for identification/operating conditions) from a connected at least one multimedia modular card, reads an input signal from the input unit, and operates one of the plurality

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of multimedia modular cards, including at least one multimedia modular card (142, 142 a-d), corresponding to the input signal.

With regard to claim 13, if the bus arbitrator (107/614) receives a demand for the external bus using right requested from one of said plurality of multimedia modular cards (142, 142a-d, 144, 146) when none of said plurality of multimedia modular cards are using the external bus, the bus arbitrator (107/614) provides the external bus using right to said one of said plurality of multimedia modular cards (arbitrator 107/614 provides one of the cards access to the bus based on a priority scheme).

With regard to claim 14, if the bus arbitrator (107/614) receives a demand for the external bus using right requested from one of the plurality of multimedia modular cards (142, 142 a-d, 144, 146) when another one of said plurality of multimedia modular cards is using the external bus, the bus arbitrator (107/614) provides the external bus using right to the requesting said one of said plurality of multimedia modular cards after said another one of said plurality of multimedia modular cards finishes using the external bus (that's clearly how bus access and arbitration based on priority works in Swanstrom et al.).

With regard to claim 15, the bus arbitrator stores priorities of said plurality of multimedia modular cards using the external bus, and provides the external bus using right to one of at least two of said plurality of multimedia modular cards having a higher priority of at least two of said plurality of multimedia modular cards, when receiving a demand for the external bus using right from at least two of said plurality of multimedia modular cards (in Swanstrom et al., the priority scheme is stored, and as in any

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conventional arbitration process using assigned priority, when two cards request access to a bus, the card with higher priority will be granted access by the arbiter).

With regard to claims 16-19, 21, 22, 25, 26, and 32-34, see discussion above.

With regard to claim 24, it is clear that the term "multimedia device" (142D, for example) used in Swanstrom et al. includes a camera comprising a multimedia card (142, for example).

With regard to claims 30 and 31, in Swanstrom et al., the transferring device (master) essentially acts as a PCI bus master in setting up the multimedia transfer. The transferring device may first be required to arbitrate for control of the PCI bus. Once the transfer has been set up on the PCI bus, the transferring device performs the data transfer on the multimedia bus to the receiving or target device (slave). Also, once the transfer has been set up on the PCI bus, then the PCI bus is free for other types of transfers.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okumura et al.

Okumura et al., as discussed above, discloses the claimed invention including the use of a multimedia card. However, Okumura et al. does not disclose the use of Bluetooth for a wireless protocol. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Bluetooth, since the examiner takes Official Notice that Bluetooth for wireless protocol is old and well-known; and selecting Bluetooth for Okumura et al. for a wireless communication between devices only involves ordinary skill in the art. If Applicants choose to properly challenge the Official Notice, supportive document(s) will be provided upon request.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okumura et al.

Okumura et al., as discussed above, discloses the claimed invention including the use of a multimedia card. However, Okumura et al. does not disclose the use of USB protocol for the cards. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use USB protocol, since the examiner takes Official Notice that USB protocol for multimedia cards old and well-known; and selecting USB protocol for Okumura et al.'s multimedia cards only involves ordinary skill in the art. If Applicants choose to properly challenge the Official Notice, supportive document(s) will be provided upon request.

Claims 5 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swanstrom et al.

Swanstrom et al., as discussed above, discloses the claimed invention including the use of a multimedia card. However, Swanstrom et al. does not disclose the use of Bluetooth for a wireless protocol. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Bluetooth, since the examiner takes Official Notice that Bluetooth for wireless protocol is old and well-known; and selecting Bluetooth for Swanstrom et al. for a wireless communication between devices only involves ordinary skill in the art. If Applicants choose to properly challenge the Official Notice, supportive document(s) will be provided upon request.

Claims 8 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swanstrom et al.

Swanstrom et al., as discussed above, discloses the claimed invention including the use of a multimedia card. However, Swanstrom et al. does not disclose the use of USB protocol for the cards. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use USB protocol, since the examiner takes Official Notice that USB protocol for multimedia cards old and well-known; and selecting USB protocol for Swanstrom et al.'s multimedia cards only involves ordinary skill in the art. If Applicants choose to properly challenge the Official Notice, supportive document(s) will be provided upon request.

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Allowable Subject Matter

Claims 27-29 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

U.S. Patent Nos. 6,669,487 to Nishizawa et al., 5,928,347 to Jones, 5,430,859 to Norman et al., 6,535,422 to Goto et al., 5,646,904 to Ohno et al., 6,601,056 to Kagle and 5,867,417 to Wallace et al. are cited as relevant art.

Any inquiry concerning this communication should be directed to Khanh Dang at telephone number 703-308-0211.



**Khanh Dang
Primary Examiner**